



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
E	WO 03 052014 A (SCHLEICH BERNHARD ; SCHMIDT FRIEDRICH GEORG (DE); KUEHNLE ADOLF (DE) 26 June 2003 (2003-06-26) * page 7, line 12 - page 9, line 5 * * page 9, line 20 - page 10, line 9 * * page 11, line 11 - line 20 * * page 12, line 15 - line 20 * * page 13, line 17 - line 20 * * page 14, line 3 - page 15, line 12 * * page 16, line 8 - line 23 * * page 17, line 12 - line 14 * * page 26, line 5 - line 10 * * page 26, line 26 - line 29 * * example 2.1 *	1-7, 10, 13, 16-18, 24-26	C09D11/10 C09D11/00
E	EP 1 302 499 A (BROTHER IND LTD) 16 April 2003 (2003-04-16) * page 2, line 7 - line 11 * * page 2, line 46 - page 3, line 42 * * example 7 *	1, 4-6, 11-13, 15, 24-26	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
X	US 6 110 987 A (OOGA KAZUHIKO ET AL) 29 August 2000 (2000-08-29) * column 1, line 31 - line 34 * * column 12, line 66 - column 13, line 6 *	1, 4-14, 17, 21	C09D C08G
A	* column 13, line 50 - line 51 *	2, 3	
A	* column 14, line 35 - column 15, line 34 * * claim 1 *	19, 20	
A	US 6 270 561 B1 (NGUYEN MY T) 7 August 2001 (2001-08-07) * column 1, line 36 - line 40 * * column 2, line 35 - line 41 * * column 3, line 16 - column 4, line 23 *	1-3, 6, 19-21	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 July 2003	Examiner Matthijssen, J-J
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US 6 310 115 B1 (VANMAELE LUC ET AL) 30 October 2001 (2001-10-30) * column 1, line 8 - line 10 * * column 3, line 17 - line 26 * * table 1 * * column 12, line 60 - column 13, line 60 * * * column 14, line 54 - line 56 * * column 15, line 18 - line 26 * * column 17, line 8 - line 12 * * column 17, line 37 - line 41 * -----	7-10, 15-18, 22-26	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 July 2003	Examiner Matthijssen, J-J
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 03 10 0462

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

23-07-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 03052014	A	26-06-2003	DE	10249453 A1	18-06-2003
			WO	03052014 A1	26-06-2003
EP 1302499	A	16-04-2003	JP	2003105077 A	09-04-2003
			EP	1302499 A2	16-04-2003
			US	2003094738 A1	22-05-2003
US 6110987	A	29-08-2000	JP	10081838 A	31-03-1998
			DE	19730498 A1	22-01-1998
US 6270561	B1	07-08-2001	CA	2286446 A1	15-04-2001
US 6310115	B1	30-10-2001	EP	0997508 A1	03-05-2000

Extended European Search Report

This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

The examination has revealed that the application or the invention to which it relates appear **not** to meet the requirements of the Convention (see comments on enclosed Form 2906).

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.



The examination is being carried out on the **following application documents**:

Text for the Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI SK TR LI

Description, pages:

1-33 as originally filed

Claims, No.:

1-27 as originally filed

The following documents D1-D5 are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: WO-A-03052014
D2: EP-A-1302499
D3: US-A-6110987
D4: US-B1-6270561
D5: US-B1-6310115

1 Clarity

The application does not meet the requirements of Article 84 EPC, because claims 2-5 and 12 are not clear.

1.1

Claim 2 and 3: The attention of the applicant is drawn to the fact that the term "preferably" does not limit the scope of protection of said claims (Guidelines C-III, 4.6). The applicant is invited to include the subject matter limiting features in separate claims.

1.2

Claims 4 and 5 are written as product claims characterized by a process feature, (curing) which casts doubt as to its category (Guidelines C-III, 4.1), and are to be construed as claims to the product per se (Guidelines C-III, 4.7b). The process features limit the scope of said claims only when they give rise to a different product. There is



however no evidence on file to support this, consequently this feature is seen as illustrative. Therefore, the subject matter of claims 4 and 5 does not contain any additional technical features and are in the current form redundant.
The applicant is invited to delete claims 4 and 5 or change them to process claims.

1.3

The term "initiator synergist" used in claim 12 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear.
The applicant is invited to clarify the claim.

2 Novelty

2.1

The PCT application WO-A-03052014 (D1) published on 26-06-2003 claims the priority date of 06-12-2001. It has been supplied to the European Patent Office in one of its official languages and the national fee provided for in Article 22, paragraph 1 or Article 39, paragraph 1 of the Co-operation Treaty has been paid. The requirements of Article 158(2) EPC are thus fulfilled.

Its content as filed is therefore considered as comprised in the state of the art relevant to the question of novelty, pursuant to Article 54(3) and (4) EPC. This earlier application shows: A radiation curable ink system (page 16, line 8-23) comprising a polyhedral oligomeric silsesquioxane (POSS) (structure 2, page 8) wherein at least one substituent X is curable. Further a pigment TiO₂ or a colorant (page 13, line 17-20, resp. example 2.1), a curable (meth)acrylate polymer (page 14, line 7-8) and water or an organic solvent (page 17, line 12-14) are comprised. The POSS molecules can be combined, to form dendrimeric structures (page 11, line 11-20). Document D1 also discloses a process of jetting the described ink composition to a substrate selected from plastic, metal and textile (page 26, line 26-29), followed by radiation curing (page 16, line 8-23). Thus, it is prejudicial to the novelty of the subject-matter of claims 1-7, 10, 16-18 and 24-26 of the present application insofar as the same Contracting States AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR are designated.

2.2

The European patent application EP-A-1302499 (D2) published on 16-04-2003 claims the priority date of 28-09-2001.

Its content as filed is therefore considered as comprised in the state of the art relevant



to the question of novelty, pursuant to Article 54(3) and (4) EPC. This earlier application shows: A radiation curable ink composition comprising an oxetanyl silsesquioxanes *disclose* compound (page 2, line 46-58), a colorant (page 3, line 15-17), a photoinitiator, an initiator synergist (page 3, line 12-14) and a photo cationic polymerizable resin (page 3, line 8-11). The viscosity of the ink composition is with 2-30 mPas suitable for ink jet printing (page 3, line 19-21). Further, D2 discloses a process of ink jet printing on a impermeable surface such as wood or metal, followed by UV curing (page 3, line 40-42).

Thus, it is prejudicial to the novelty of the subject-matter of claims 1, 4-6, 11-13, 15 and 24-26 of the present application insofar as the same Contracting States AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR are designated.

D3: US-A-6110987

2.3

Claims 1, 4-14, 17 and 21: Document D3 discloses a photo curable ink composition *disclose* (claim 1) comprising, (meth)acrylic poly-functional polyorganosilsesquioxanes (column 13, line 50-51), a dye or a pigment (column 14, line 35-50), a photoinitiator and an initiator synergist (claim 1). The acrylic compound can be used alone or in mixture of two or more selected from triethylene glycol acrylate and polyester acrylate (column 12, line 66 - column 13, line 6 and column 13, line 38-49). Further are an organic solvent and an antioxidant comprised in the ink composition (column 15, line 7-35). Therefore, the subject matter of claims 1, 4-14, 17 and 21 is not novel in view of D3 (Article 54(1)-(2) EPC).

3 Inventive step

The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claims 19, 20, 22, 23 and 27 does not involve an inventive step in the sense of Article 56 EPC.

3.1

The subject-matters of claims 19, 20, 22, 23 and 27 are mere variations within the ambit of claims 1 and 24 respectively and it has not been shown that the technical features thereof substantiate to a technical effect, in order to solve a technical problem in a non-obvious manner, in view of D4 or D5 as to establish an inventive step. Therefore, the subject matter of claims 19, 20, 22, 23 and 27 does not involve an inventive step.



4 Additional remarks

4.1

The following features found in claims 7, 9, 24, 26, 27 have been omitted from the description. They should therefore be added to the description to provide support for the claims as required by Article 84 EPC. The features in question are:

"solid solution of a pigment"	(claim 7)
"soluble dye"	(claim 9)
whole subject matter	(claim 24)
"magnetic materials" and "supports carrying an ink-accepting layer"	(claim 26)
whole subject matter	(claim 27)

4.2

The applicant is invited to indicate registered trade marks in the description on pages 20, 25, 26, 31 and 32 with a ® in superscript.

4.3

To meet the requirements of Rule 27(1)(b) EPC, the documents D1-D3 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

4.4

When filing amended claims, the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).